

Remarks

The Applicants discovered that pressure sensitive adhesives that include high levels of silicone tackifying resins, when dried, have a tendency to lose tack due to the tackifier migrating to the liner interface. This occurs, for example, in solvent borne silicone-based pressure sensitive adhesives, and, in particular, in thicker coatings. To address this issue, the Applicants utilize a processing aid, such as a plasticizer, to help the tackifier remain more homogeneously distributed and prevent a surface from losing tack. According to the specification of the above-identified patent application at page 14, lines 5-25, the issue of tackifier migration occurs when the silicone tackifying resin concentration is at 55 wt-% or greater based on the weight of the silicone tackifying resin and the polydiorganosiloxane polyurea components. The claims now provide that the pressure sensitive adhesive includes at least 55 wt-% silicone tackifying resin, based on the weight of the silicone tackifying resin and the polydiorganosiloxane polyurea copolymer. As further described by the specification at page 14, lines 5-25, the processing aids, such as plasticizers, are added to "ensure generally uniform distribution of the polydiorganosiloxane polyurea copolymer and the silicone tackifying resin throughout the thickness of the adhesive layer." The claims provide that the processing aids, such as plasticizers, are included in an amount sufficient to provide a generally uniform distribution of the polydiorganosiloxane polyurea copolymer and the silicone tackifying resin throughout the thickness of the adhesive layer.

The prior art relied upon in the outstanding Office Action fails to appreciate the problem of silicone tackifier migration when the silicone tackifying resin is provided at a concentration of at least 55 wt-% silicone tackifying resin, based on the weight of the silicone tackifying resin and the polydiorganosiloxane polyurea copolymer, and that the problem can be addressed by utilizing a processing aid, such as a plasticizer, in an amount to ensure a generally uniform distribution of the polydiorganosiloxane polyurea copolymer and the silicone tackifying resin throughout the thickness of the adhesive layer. Accordingly, the present invention is based upon the Applicants' discovery of the problem of tackifier migration and the solution to the problem that involves providing a sufficient amount of processing aid, such as plasticizer, to ensure a generally uniform distribution of the polydiorganosiloxane polyurea copolymer and the silicone tackifying resin throughout the thickness of the adhesive layer. In fact, one having ordinary skill

in the art would not have looked to utilize a processing aid, such as a plasticizer, because one would expect a loss in shear holding power as described by the specification at page 14, lines 23-25. However, the Applicants discovered that they were able to provide a desired balance of tack, peel, and shear holding power according to the invention.

The outstanding office action includes four prior art-based rejections. Claims 1-3, 7, 10, 13-20, 22, 23, 27, and 29-45 stand rejected under 35 U.S.C. 102(b) or under 35 U.S.C. §103(a) over International Publication No. WO 96/34028 (*Sherman et al.*). Claims 8, 11, 12, 21, and 28 stand rejected under 35 U.S.C. §103(a) over *Sherman et al.* Claims 4-6 and 24-26 stand rejected under 35 U.S.C. §103(a) over *Sherman et al.* and U.S. Patent No. 5,776,614 (*Cifuentes et al.*). Claims 1-7, 10, 13-20, 22-27, and 29-45 stand rejected under 35 U.S.C. §103(a) over *Sherman et al.* and U.S. Patent No. 4,882,377 (*Sweet et al.*). These rejections are traversed.

Rejections over *Sherman et al.*

Sherman et al. describe a tackified cross-linkable polydiorganosiloxane oligourea segmented copolymer useful as pressure-sensitive adhesives. See *Sherman et al.* at page 1, lines 4-7. The pressure sensitive adhesive composition described by *Sherman et al.* is intended to be curable under free radical or moisture cure conditions. See *Sherman et al.* at page 4, line 29 through page 5, line 9. The polydiorganosiloxane oligourea segmented copolymers described by *Sherman et al.* include reactive end groups. The Examiner's attention is directed at *Sherman et al.* at page 10, line 9 through page 13, line 7, where the "X" groups are identified as reactive groups that are available for curing by, for example, free radical polymerization or moisture curing.

Sherman et al. fail to recognize the problem of tackifier migration at high levels of silicone tackifying resin. *Sherman et al.* describe their composition as containing about 20 to about 80 parts by weight silicate resin at page 20, lines 14-21. There is no recognition by *Sherman et al.* that when the composition exceeds about 55 wt-% silicone tackifying resin, silicone tackifier migration becomes a problem resulting in a significant difference in tack between the air interface and the liner interface of the adhesive as described by the above-identified specification at page 14, lines 11-16. Accordingly, without recognizing the problem associated with utilizing high concentrations of silicone tackifying resin, one having ordinary

skill in the art would not have received a suggestion to modify *Sherman et al.* to incorporate a sufficient amount of a processing aid, such as a plasticizer, to provide a generally uniform distribution according to the present invention.

Sherman et al. fail to disclose the "polydiorganosiloxane polyurea copolymer" component provided by the present invention. The outstanding Office Action refers to *Sherman et al.* at page 10, line 9 through page 13, line 7 for the disclosure of a "polydiorganosiloxane polyurea copolymer." It is pointed out that this portion of *Sherman et al.* is directed at "polydiorganosiloxane oligourea segmented copolymers." It is submitted that there is a difference between the "oligourea" polymers disclosed by *Sherman et al.* and the "polyurea" copolymers provided by the present invention. The outstanding Office Action has failed to establish that the "polydiorganosiloxane oligourea segmented copolymers" described by *Sherman et al.* satisfy the "polydiorganosiloxane polyurea copolymer" component of the present invention.

The outstanding office action refers to *Sherman et al.* at page 9, lines 21-23, for the disclosure of "plasticizers." It is pointed out that this disclosure of plasticizers is a generic disclosure and is accompanied by a list of other optional components. *Sherman et al.* fail to suggest using a plasticizer to provide a generally uniform distribution between a tackifying resin and a copolymer according to the claimed invention. As described by the specification at page 14, lines 4-25, a processing aid such as a plasticizer is beneficial to insure generally uniform distribution of the polydiorganosiloxane polyurea copolymer and the silicone tackifying resin throughout the thickness of the adhesive layer. It is submitted that this teaching is not provided by *Sherman et al.* Accordingly, it is submitted that one having ordinary skill in the art would not have received the suggestion from *Sherman et al.* to use a plasticizer in a manner that provides a generally uniform distribution of tackifying resin and copolymer as required by the presently claimed invention.

In view of the above comments, the present invention is not disclosed by *Sherman et al.*, and one having ordinary skill in the art would not have received the suggestion to modify *Sherman et al.* to include a plasticizer in a manner that provides a generally uniform distribution

of tackifying resin and copolymer as required by the claimed invention. Accordingly, withdrawal of the rejection over *Sherman et al.* is requested.

The Rejection over *Sherman et al.* and *Cifuentes et al.*

As described above, *Sherman et al.* fail to recognize that at high concentrations of silicone tackifying resin, tackifier migration becomes an issue resulting in a significant difference in tack between the air interface and the liner interface of the adhesive, and that the problem can be addressed by including a sufficient amount of processing aid, such as a plasticizer, to provide a generally uniform distribution of copolymer and silicone tackifying resin. Furthermore, it is submitted that the issue of tackifier migration may not be a particular problem for *Sherman et al.* because the copolymer described by *Sherman et al.* is a "polydiorganosiloxane oligourea segmented copolymer" rather than a "polydiorganosiloxane polyurea copolymer" as required by the present invention. Nevertheless, *Cifuentes et al.* fail to suggest modifying *Sherman et al.* to achieve the present invention.

Cifuentes et al. are directed at a pressure sensitive adhesive composition obtained by reacting a mixture comprising at least one hydroxyl-terminated polydiorganosiloxane and at least soluble silicone resin. See *Cifuentes et al.* at column 2, lines 25-51. Clearly, this type of pressure sensitive adhesive disclosed by *Cifuentes et al.* is different from the present invention. *Cifuentes et al.* fail to disclose or suggest the "polydiorganosiloxane polyurea copolymer" component of the present invention.

The outstanding Office Action apparently relies upon *Cifuentes et al.* for the disclosure of plasticizers at column 5, line 7 through column 6, line 10. The disclosure of plasticizers by *Cifuentes et al.* is certainly not a suggestion to modify *Sherman et al.* to achieve the present invention. Nowhere do *Cifuentes et al.* suggest the use of a plasticizer to address the issue of tackifier migration when a pressure sensitive adhesive composition contains a relatively large amount of silicone tackifying resin. Furthermore, it is pointed that *Cifuentes et al.* would not have suggested replacing the "polydiorganosiloxane oligourea segmented copolymer" disclosed by *Sherman et al.* with a "polydiorganosiloxane polyurea copolymer" according to the present invention.

In view of the above comments, one having ordinary skill in the art would not have received a suggestion from *Cifuentes et al.* to modify *Sherman et al.* to achieve the presently claimed invention. Accordingly, withdrawal of the rejection over *Sherman et al.* and *Cifuentes et al.* is requested.

The Rejection over *Sherman et al.* and *Sweet et al.*

As described above, *Sherman et al.* fail to recognize that at high concentrations of silicone tackifying resin, tackifier migration becomes an issue resulting in a significant difference in tack between the air interface and the liner interface of the adhesive, and that the problem can be addressed by including a sufficient amount of processing aid, such as a plasticizer, to provide a generally uniform distribution of copolymer and silicone tackifying resin. Furthermore, it is submitted that the issue of tackifier migration may not be a particular problem for *Sherman et al.* because the copolymer described by *Sherman et al.* is a "polydiorganosiloxane oligourea segmented copolymer" rather than a "polydiorganosiloxane polyurea copolymer" as required by the present invention. Nevertheless, *Sweet et al.* fail to suggest modifying *Sherman et al.* to achieve the present invention.

Sweet et al. describe a pressure-adherent silicone elastomer composition comprising a silicone pressure sensitive adhesive composition, a cross-linkable silicone elastomer composition, and a non-volatile, non-flammable, compatible viscosity reducing agent for reducing the viscosity of the pressure-adherent silicone elastomer composition. See *Sweet et al.* at column 3, line 29 through column 4, line 10. Similar to *Cifuentes et al.*, *Sweet et al.* fail to recognize or appreciate the problem of tackifier migration in a pressure sensitive adhesive composition containing a relatively large amount of silicone tackifying resin, and fail to address the problem by providing a plasticizer in an amount sufficient to provide a generally uniform distribution of silicone tackifying resin and copolymer. Furthermore, *Sweet et al.* would not have suggested modifying *Sherman et al.* by replacing the "polydiorganosiloxane oligourea segmented copolymer" described by *Sherman et al.* with the "polydiorganosiloxane polyurea copolymer" according to the present invention.

In view of the above comments, one having ordinary skill in the art would not have received the suggestion from *Sweet et al.* to modify *Sherman et al.* to achieve the presently

claimed invention. Accordingly, withdrawal of the rejection over *Sherman et al.* and *Sweet et al.* is requested.

Rejection Under 35 U.S.C. §112

Claims 38 and 39 stand rejected under 35 U.S.C. §112, second paragraph. In view of the amendment to claims 38 and 39, it is believed that this rejection has been rendered moot and withdrawal of this rejection is requested.

Objection to the Specification

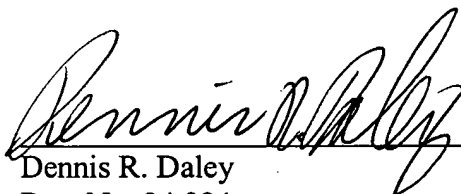
The outstanding Office Action includes an objection to the specification at page 17, lines 24-25. In view of the above amendment, it is believed that this objection has been rendered moot, and withdrawal of this objection is requested.

It is believed that this application is in condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

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